

*Thesis*

*Milk Diet in Chronic Diarrhoea.*

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### MILK DIET IN CHRONIC DIARRHOEA.

The pathological conditions which may give rise to chronic diarrhoea are many and various. It may follow an acute attack and be due to chronic catarrh of the intestine. It may be due to some local malady in the bowel, such as tubercular ulceration or malignant disease. It may be due to lardaceous disease, and it may be due to entozoa. It very frequently occurs in such general diseases as Bright's disease, Addison's disease, pernicious anaemia, etc. These diseases which are so frequently accompanied by chronic diarrhoea giving rise to it, or tending to perpetuate it, are so varied that patient and thorough observation of the individual case is necessary in order that appropriate treatment may be directed to the primary ailment. It will often be found that the diarrhoea which is the most prominent feature of the case is a complication of or a sequel to some more primary disease. In adults it is perhaps especially necessary remembering two frequent causes - viz:— Malignant disease and Bright's disease - to examine the interior of the rectum and to examine the urine.

In what follows, consideration is given mainly to the treatment by milk diet of those cases in which the chronic diarrhoea is the chief complaint - the

symptom calling most urgently for treatment. Even in those cases in which the chronic diarrhoea occurs in the course of another disease ~~even~~ of a hopeless nature the milk treatment has been used with most beneficial results.

In diarrhoea there is an unusually watery condition of the contents of the bowel when they reach the rectum and are evacuated.

This abnormally watery condition depends on -

1. Lessened absorption of water by the intestine,  
~~and~~
2. Increased secretion of fluid from the mucous membrane of the intestine, or
3. Both of these.

The diminished absorption may be brought about by the intestinal wall having less absorbing power as occurs in catarrhal conditions; or by its having *in which to absorb, this want of sufficient time* less time, being due to increased peristaltic movement, and that especially in the large intestine, the liquid contents of the small intestine being hurried on too rapidly from the cœcum to the rectum.

In Ziemssen's Handbook of General Therapeutics (page 133) the increased secretion and increased peristalsis is discussed. It is said that "the question under what circumstances an excessive secretion from

from the intestinal mucous membrane takes place and what ill effects follow the pouring out of large quantities of fluid into the bowel is not yet definitely decided and for all cases. Without doubt, in inflammatory states of the walls of the intestine and especially in ulceration with shedding of epithelium, transudation occurs from the blood vessels into the bowel; but, on the other hand, the most copious discharges of fluid - such. e.g., as seen in cholera - appear to depend not on transudation but on excessive secretion of the mucous membrane (Cohnheim)." The same writer holds that the influence of functional disturbances consequent on a disease of the bowel is to be looked for in anomalies of the peristaltic movements, rather than in morbid changes in the secretion and that this is easily understood when the extreme importance attaching to these movements in the processes of digestion and absorption is considered. Every deviation of peristalsis from the normal, however, does not have an appreciably injurious effect on nutrition, but under certain circumstances the digestion and assimilation of nutriment may be seriously interfered with. In health, the contents of the large intestine are moved on slowly and are by the absorption of fluid gradually inspissated. When moved on too quickly, a liquid motion results. Very



Very many different conditions may cause exaggerated peristaltic movement always with the result of propelling too rapidly the contents of the bowel.

Excited peristalsis is very often due to abnormal stimulation of the sensory nerves of the mucous membrane of the intestine caused by food giving rise to mechanical, or chemical irritation, by decomposition of the contents of the bowels, by faecal masses and so on.

In some cases again, the nerve endings are in an abnormally irritable state so that ordinary stimuli cause undue peristalsis (Ziemssan).

The influence of emotions on peristalsis has long been known, the moderate stimulation caused by pity giving rise to borborygmi, "soundings of the bowels", the more intense stimulation caused by fear to diarrhoea. In some persons slight emotions, even when not painful, give sufficient stimulation to peristalsis to cause diarrhoea.

Exposure to chills and damp also influence peristalsis. Large watery evacuations may occur without increased peristalsis, when changes in the epithelium or blood vessels have occurred as in amyloid degeneration.

From what has been said, it will appear that the main conditions which have to be dealt with in

the treatment of chronic diarrhoea are -

1. Impaired absorptive power of the mucous membrane.
2. Increased peristalsis giving less time for absorption.
3. Increased secretion from the bowel.

Of these, the first two are usually the most important. There can be no doubt that the most essential part of the treatment is to prescribe a proper diet. The diet must be very strictly controlled if treatment is to succeed.

The food must be of a readily digestible kind seeing that the absorbing power is diminished and the time of absorption reduced. It must be capable of being as completely digested as possible so that the amount of undigested residue may be as small and as unirritating as possible, seeing that the contrary leads to increased peristalsis. For the same reason, it must be of a sort which will not tend to give rise to or aggravate the fermentation so prone to occur. The taking of food in itself gives rise to reflex peristalsis and accordingly, it should be taken frequently ~~and~~ in small quantities. These being the chief indications as to diet, the following and similar foods are to be especially avoided, viz:- "green vegetables, raw acid fruits, nuts, potatoes (except

in the form of puree), coarse brown bread and all rich, fat or acid dishes; also all forms of animal food, which are hard or tough and difficult of digestion such as pork, veal and beef - unless reduced to pulp or powder. (Burney Yeo "Food in Health or Disease," p. 398).

In Ziemssen's Handbook p. 287, it is pointed out that in diseases of the digestive organs, which are accompanied by diarrhoea, foods containing much vegetable mucus and gum, are of value, these slimy preparations investing the other injecta, thus reducing the amount of peristalsis they would otherwise provoke.

The food which approaches nearest to the ideal is undoubtedly milk. Experience has proved that of all dietaries, in cases of long standing, the most successful is one composed mainly or entirely of milk. Milk contains all the elements necessary in a complete diet. It has the great advantage of being easily procurable and cheap. It answers all the requirements enumerated above. It is the most digestible of foods; it leaves little undigested residue and that of a bland unirritating kind; it does not tend to excite, but on the contrary, allays fermentation. In cases in which fermentation is a prominent feature, restriction to a milk diet almost at once reduces the activity of the putrefactive bacilli. Fermentation

is accompanied by the presence of ethereal sulphates in the urine in quantities proportional to the amount of fermentation. Milk diet at once reduces the quantity of ethereal sulphates in the urine; and further, "Gilbert and Dominici (Compte. Rend. Soc. de Biologie April 1894) found that the micro-organisms in the faeces fall to 1/71st of the previous number, in man when fed on milk alone. Similarly they found in the dog on a milk diet a great decrease in the numbers present in all parts of the alimentary canal". (Lockhart Gillespie in 'The Natural History of Digestion,' page 218). Dujardin Beaumetz in 'L'Hygiene Alimentaire,' maintains that a strictly milk diet conscientiously carried out will cure all forms of chronic diarrhoea except that of tubercular ulceration.

Some patients, unfortunately, have a prejudice against milk. Sometimes as in the case reported below, because they have tried it for a short time, long enough to be thoroughly tired of ~~this~~ milk, but not long enough to have obtained any substantial benefit from it. In the cases where I have succeeded in persuading the patient patiently to submit to the dietary rules which are illustrated in the case referred to and to adhere to those rules for a sufficient length of time, the result has always been strikingly good and in that case where the diarrhoea had persisted for over seven years, and had baffled other

other treatment, it was completely successful. In no case, have I found the milk really disagree when honestly and perseveringly tried. Slight variations have to be made to suit individual patients, but in the main, the treatment which I have found successful, has been almost identical with that illustrated in the following pages.

It is best in all cases to begin with an absolutely pure milk diet for a short time, adding first a water or arrowroot biscuit. The biscuit is usually well borne and is a welcome relief to the monotony of the milk. A lightly boiled egg may very soon be added, but no fixed periods can be given as all additions to or subtractions from the diet depend on the progress of the case. What is to be insisted on is that for a considerable time, milk is to be the staple article of diet and that nothing whatever is to be added to it until there is only one motion a day and that of a satisfactory kind. The effect of each addition to the diet is jealously watched and on the least injury resulting, the offending addition is withdrawn.

It is of very great value to request the patient to keep an exact record of the milk or additional articles of food taken indicating quantities and times of taking and also of the motions. This will

be found to be exceedingly convenient for the medical man and has a good moral effect on the patient keeping up interest in the treatment, encouraging the consumption of milk and making the eating of forbidden articles more heinous, it being a point of honour that everything eaten is to be recorded. It is well ~~to~~ to fix a daily quantity of milk which is to be aimed at and this is most conveniently stated in tumblerfuls, six or more according to the individual.

The milk is to be taken frequently in small quantities at a time - slowly sipped - each mouthful being retained in the mouth and moved about to give it the proper temperature. The slight admixture with saliva thus produced, also renders the curd less firm and more digestible. These simple precautions are of the greatest value in view of what has been said regarding peristalsis. It is sometimes recommended that the milk should be boiled. It would be unfortunate to insist on that, as most people prefer it unboiled and seeing that it is to be the main food for months, it is unwise to render it unpalatable. Boiled milk too is not so digestible as unboiled. Peptonised milk may in some very bad cases be used as described by Sir W. Roberts (Digestion and Diet) but that is not usually necessary .

It cannot be too strongly urged that the treatment requires time and it is essential that the patient should be prepared for months, it may be six months or more, to endure the dietary privations necessary. It is certain that in many of the cases of chronic diarrhoea which have failed under the milk treatment, the failure has been due to an impatient and premature return to more appetising food.



~~1893~~  
M. G. an unmarried lady (now aged 37) had been suffering from chronic diarrhoea for six years when I first saw her in June 1893. Her family and personal history are as follows :- Her father died of phthisis at the age of 39, her mother aged 32 also of phthisis after a long illness with protracted diarrhoea. Her father had two brothers both of whom died of phthisis, his two sisters are still alive one of them suffering from habitual menorrhagia. The patient's mother suffered from menorrhagia. The mother had two sisters both of whom suffer from uterine trouble. None of her brothers or sisters have suffered from phthisis. The patient has one sister and one brother alive - a brother died in infancy. Her sister, who is two years her senior, has habitually suffered from excessive menstrual discharge. Her brother showed some symptoms of pulmonary mischief about six years ago and was sent to Davos for several months, since when, except that he has had a slight attack of gout, he has been quite strong.

Two marked features of the family history, therefore, are the frequency of phthisis and of menstrual affections.

The patient is fair, of slight build and

rather undersized. Her intellect is of a highly imaginative order. She is a very diligent reader of the poets and possesses a memory exceedingly tenacious of all poetry. ~~\_\_\_\_\_~~  
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Physically she has always been rather delicate. As a child she suffered frequently from Bronchitis. Constipation had often to be combated. Menstruation began at the age of 13. At first and for a few years there was no pain at the menstrual period and the quantity was rather small. It lasted eight days and the interval was twenty-one days. From 13 to 17 she enjoyed fairly good health. When 17 years old she left school in Edinburgh and returned to her home in Orkney where she was born and spent the early years of childhood. Thereafter she became more or less a chronic invalid. Very obstinate constipation became constant and this was accompanied by dyspepsia with much pain after eating. The nasal mucous membrane became swollen and felt choked up and there was for an hour or two in the morning much watery discharge. This state of things lasted for about five

years. During this time she went several times on a visit to London and noticed that when there she suffered much less from constipation and that the nasal condition was also much relieved. Menstruation at this time was quite regular and painless with the exception of one day - the first. When she was 22 she went for nine months to Switzerland accompanying her brother who had been ordered there, they resided chiefly at Davos. There she suffered from anaemia and muscular rheumatism.

Next summer she returned to Orkney. She had no sooner got there than diarrhoea set in, at first slight, gradually getting more serious. At first the bowels moved only after eating and she felt quite well between meals later she was often obliged to leave the table in the middle of a meal. There was severe pain and considerable straining both before and after the motion. Rarely food was passed unaltered. The motions were liquid, of a brown colour, of an exceedingly bad odour, with no froth. The diarrhoea and accompanying pain were much aggravated during menstruation. This was allowed to go on without advice for two years when she consulted a doctor in Kirkwall who prescribed a mixture which relieved the condition to some extent while being taken, but led to no permanent improvement. The stools now became

more frequent than the meals, occurring with great regularity at about the following hours 9 & 11 a.m. 1, 3, 5, 7, 9 p.m., always liquid, the quantity being greater when occurring after food. Sometimes one of these regular times would be passed without a motion, in that case the pain occurred notwithstanding. When taking the mixture mentioned the motions averted were often replaced by sickness. The diarrhoea never occurred during the night. Later on she went to Edinburgh to consult a physician. She was now ordered Blauds' Pills and recommended to consume considerable quantities of milk and lime water in addition to her ordinary food. She experienced little benefit from this treatment. For the next three years she consulted physicians no more, although the condition remained unaltered. Then she left Orkney and went to reside at Aberfeldy. The diarrhoea by this time had become more independent of eating occurring at its own more or less regular times, whether she ate or not and also equally painful.. There was no improvement at Aberfeldy. She there consulted a doctor who tried various medicines without any permanent success. From him she first got opium and with it she found she could stop the diarrhoea for a day when desired. This was of the greatest convenience but its use made her very uncomfortable and ~~eff~~ did no lasting good. The nasal condition became aggravated in Aberfeldy. She went to consult Dr. Mc.Bride, Edinburgh, who applied a cauterly to the mucous membrane, which gave

her great relief. After a year and a half in Aberfeldy she went to Inverness, being no better there she saw a doctor who prescribed a mixture which gave some relief while being taken. In the same spring she went to Edinburgh and saw another physician to whom she was recommended. He advised her not to return to Inverness or Orkney but to try residence in the Highlands, mentioning Ballater. He ordered Promide of Quinine, in mixture, after each meal and a pill containing Nux vomica and belladonna twice a day after meals. She was to take hot milk frequently to take meals more frequently, to have food late at night and during night, to use chiefly arrowroot and starchy foods boiled in milk. She came to Ballater in June, 1893. The diarrhoea was at this time worse than it had ever been before, more frequent and more painful. There was also now apt to be an excessive menstrual flow at the period. This month (June 1893), when she menstruated, the pain was very severe and there was much discharge so that she was obliged to remain in bed for the first four days - the discharge continuing till the 8th or 9th day. The diarrhoea reached its climax during this menstruation - the amount and the pain of it being greater than ever before or since. She was very weak after it. The day after menstruation ceased she felt

<sup>which</sup>  
pain in the chest, became gradually worse.

I saw her a day or two later for the first time and found her suffering from a right apical pneumonia. She was emaciated and weak and was for some time in a very critical condition. The pneumonia ran a characteristic course. Until after the crisis the diarrhoea continued with; off and on, a little menstrual discharge. During recovery, however, the diarrhoea abated and ultimately ceased when she was able to be out. Pain also disappeared. The lung cleared up completely. There were no signs or symptoms of tuberculosis.

Six weeks elapsed before menstruation occurred again, giving a breathing space for recovery. She became stronger every day and rapidly recovered lost ground. The emaciated appearance wore off though she was still thin. She felt better than for many years. When menstruation recurred there was much less discharge; there was a little diarrhoea with not very much pain. Following this the interval between the period has been irregular usually being longer sometimes shorter than three weeks, also the menstrual discharge has been much less in quantity. These menstrual characteristics have remained.

Insidiously, after three months of comparatively good health, the diarrhoea reappeared and increased until at Christmas 1893 it was pretty much as before. I was again called. At first the Edinburgh physician's treatment described above was given a thorough trial. Later I tried all the usual astringents, such as permittate of Iron, Acetate of lead, sulphate of copper, zinc oxide, nitrate of silver and these combined with opium. All seemed to do good for a time; all failed. Arsenic also gave temporary good results. Antiseptics - Salol ~~Snaphthol~~ Resorcin were also tried. During the menstrual period I asked her to remain in bed. I wished her to take a pure milk diet but having as she said tried it frequently without benefit and without enjoying it this was not thoroughly carried out. She wore an abdominal flannel belt and was clothed warmly. In March I asked her to stay in bed for a month and as far as possible, endeavoured to get her to live entirely on milk which had been boiled. At the same time she was taking an astringent. This succeeded while she was in bed, in fact we had to beware of constipation, but on getting up and resuming ordinary diet, diarrhoea recurred.

During that summer 1894 she was in bed another month with similar results. I had by the following Christmas (94) exhausted the list of astringents.



The stools on examination were exactly as she described them having been from the beginning (as above) except that now there was much mucus in them.

Watching the case from week to week some interesting characteristics of the disease became evident.

1. The barometric character of the diarrhoea. Dry bracing weather did best with the patient - wet weather aggravating the diarrhoea. Frost if not too severe suited her but intense frost - anything beyond 10 or 12 degrees of frost had a bad effect. Very marked aggravation always occurred with a thaw. She felt better in London than in Orkney and in Pallater than in London.

2. The benefit derived from walking. Keeping in bed was found to mitigate the diarrhoea but she could not always be kept in bed. Now it was remarkable that, when not in bed, if she could get out for a long walk for an hour or two in the day there was distinct benefit the diarrhoea was lessened as was also the menstrual discharge.

3. Above all the close relation between the diarrhoea and the menstrual function. So, inevitably was the diarrhoea aggravated by the occurrence of menstruation that one was led to think that, the only

hope of cure lay in getting rid of menstruation, and to believe that the diarrhoea was a symptom of some gynecological condition. The failure of all the usual remedies applied to the bowel also pointed to some external cause. Repeated examinations however failed to give any light.

A little before Christmas 1894 I asked the patient to go to Edinburgh to see Dr. Barbour. I acquainted him with the history of the case and wished his assistance chiefly in clearing up the connexion between the diarrhoea and menstruation. Dr. Barbour went into the case very thoroughly seeing her every day for about ten days. He wrote to me when she returned to Ballater as follows :- Miss G's case has rather puzzled me. I thought at first it might be "sprue" which, though an eastern ailment, has come on after staying in the Alps. I asked a friend Dr. Lyall who has had extensive experience of it and other forms of protracted diarrhoea to see her. The stools, however, have not the fermented character of sprue and the tongue is not like it. I thought also it might be tubercular from the tubercular family history. It is a curious fact about the diarrhoea having stopped after the pneumonia. There is no

evidence in the stools, or otherwise, of the diarrhoea being tubercular. The stools look most like bilious diarrhoea but there is no other evidence of liver disturbance.

I only examined per rectum. There was tenderness, due to diarrhoea, no obvious change in the mucous membrane.. Some tenderness over ovaries and uterus to the front. Not sufficient in pelvis to justify a vaginal examination under chloroform. The diarrhoea seems to be aggravated by an excited reflex action. It comes on immediately after food and never during the night. It seemed also to be partly habit. I have never seen a case like hers before".

Dr Barbour recommended a more thorough course of milk dieting.

The plan adopted was as follows:- Milk was to be the staple article of diet. It was to be taken in small quantities, repeatedly, and each mouthful retained and rolled about for a little in the mouth, the quantity to be aimed at was 6 tumblerfuls a day. Very carefully as time passed other articles of diet were to be tried and rejected at once if pains were caused. The milk caused no pain. The patient was to keep an exact record of everything she ate and

of motions passed. She was not to stay in bed. All medicines were stopped.

The record was carefully kept and extends from December 4th 1894 to April 5, 1895. December 4 was the first day of the new regime and the record for that day is as follows :-

Motions.	Dec. 14.	Milk.
8 a.m. before rising and before food.		
10 a.m. slightly	3.30	$\frac{1}{2}$ tumbler.
11 a.m. freely.	5	1 "
2 p.m. medium.	7	1 "

Decr. 15th.

8.30 a.m. before rising freely.	8	$\frac{3}{4}$	"
	9.30	1	"
	12.30	1	"
	3.15	$\frac{1}{2}$	"
	5	1	"
	7.30	1	"
		<u><math>\frac{5}{4}</math></u>	"

Decr. 16th

8 a.m. slightly, painless	9.30	1 & 1 egg
	11.15	$\frac{1}{2}$
	1	1
	3	1
	5	1
	7	1
	9	$\frac{1}{2}$
		<u>6</u>

To give the whole record would take up too much space. I give a few of the main points in it. A little arrowroot biscuit was allowed along with

the milk and caused no pain. In future these biscuits were allowed when desired. The egg caused no pain and therefore became an article of diet.

The record of Decr. 17 & 18 are almost precisely similar to Decr. 16. On Decr. 19 a little cornflour was taken. It caused pain and was therefore disallowed.

Decr. 20. 5½ tumblers and two eggs. Still one morning motion only.

Decr. 21. 2 motions. ~~\_\_\_\_\_~~

Decr. 22. Menstruation began; continued till Decr. 28, there was only a little pain. One motion a day. Great care was exercised during the period and no addition to dietary attempted.

Decr. 31. A little fresh white fish was allowed. No pain.

Jan . 1 Fish repeated.

Jan . 2. Chicken Soup. No pain.

Jan . 3. Both fish and chicken soup.

With always of course 5 or 6 tumblerfuls of milk and one or two eggs.

No further addition was made to food allowed until

Jan. 15 when a little sago made with milk was taken and

Jan. 16. Beef tea; both of which caused no pain.

Feb. 14. A small piece of breast of chicken.

Feb. 15 Ginger pudding.

Feb. 16 Boiled mutton with rice.



Feb. 22 Cup of tea, with bad result.

March 4. Motion delayed. Small piece of apple eaten with desired result.

March 5 Cold beef.

March 27. Cold ham.

April 1. Haricot beans.

April 3. Boiled beef and beans.

All along, however, milk and eggs were the main dietary the beef tea, chicken tea, chicken, rice, &c. being kept for dinner at 5 p.m. as two specimens from the latter part of the record will show.

Feb. 20th

Motions.		Milk &c.	
7.20 a.m.	1	8.30	$\frac{1}{2}$ tumbler
		9.	$\frac{1}{2}$ " 1 egg.
		11.	$\frac{1}{2}$ " "
		12.	$\frac{1}{2}$ " "
		1.	1 " 1 egg.
		3.	$\frac{1}{2}$ " "
		5.	Chicken and rice.
		9.	1 tumbler.
			<hr/> 4 $\frac{1}{2}$ "

March 20.

8.10	1	9.	$\frac{1}{2}$ 1 egg little tea
		11.30	1
		1.	$\frac{1}{2}$ 1 egg.
		3.30	$\frac{1}{2}$
		5	Ham, haricot beans and pudding.
		9.	$\frac{1}{2}$
			<hr/> 3.

The effect of this treatment on the diarrhoea as shown in the record is striking- With great reg-

ularity the entry is one well formed motion in the morning - The exceptions are infrequent. On Jan. 13 there was a little diarrhoea - one motion only at 2.30 A strong thaw occurred that day. On January 18 the same occurred and was probbaly accounted for by the fact that she took too long a walk and was overtired.

Jan. 21        There are two motions well formed noted but on Jan.20 for first time there had been no motion.

Jan.22.        Again no motion. No further irregularity occurred till

Feb. 22.        when there was a second motion at 2.20 p.m. two hours after her first cup of tea - taken hot.

March 5.        No motion recorded.

March 13&17. Show two motions - during menstruation.

March 24&27 Two motions without apparent reasons.

It is noticeable that on only one occasion did the irregularity seem to be due to dietary indiscretion namely in the case of the hot tea.

It was made a rule, that, during menstruation and in damp weather, there should be no attempt at progression in dietary but rather retrogression to the safer articles, milk, eggs and fish.

While kept on this diet therefore the patient was cured of diarrhoea. During the period of its



application she experienced much better health in every way than she had been accustomed to. Her weight increased steadily from 7 stones 8 lbs on Jan. 16 to 8 stones 6 lbs on Feb. 27. The latter weight has remained about the average since then. She was able to move about with far more freedom, the dread of the ever recurring stool being removed. Her haggard expression and emaciated appearance has gone for good..

By degrees she returned to ordinary diet. When, however, the milk diet had been completely left behind the diarrhoea tended to return during the menstrual week and the week following it. Even, then, however, it was a mild experience compared with former times. During these two weeks a partial return to the milk diet became necessary and was usually quite efficient. At other times there was no diarrhoea unless the weather was such as to prevent her going out to walk. In that case milk was also the remedy.

There still remained pain at the menstrual period even when no diarrhoea was present. Neuralgia of the face and tumefaction of the nasal mucous membrane were almost always present towards the end of menstruation and for the week following it. The usual remedies for neuralgia were ineffective. These

symptoms were giving much trouble in the autumn of 1897. I then ordered an occasional dose of a mixture recommended for dysmenorrhoea in Hart and Barbour's Manual of Gynecology, viz:-

R. Spir. Chloroformi  
Spir, Ammoniae Aromat. aa  $\frac{3}{4}$   
Liq. Ammoniae Acetat.  $\frac{3}{4}$

Sig. ~~Table~~<sup>Tia</sup> spoonful in a wineglassful of hot water occasionally.

This taken once or twice a day acted like a charm. The pain and facial neuralgia were relieved and also the tendency to diarrhoea was overcome. She finds it best to take a dose after breakfast and before other meals during the menstrual week. This being done there is no diarrhoea either that week or the week after as a rule. But if she cannot get her daily walks that week and, in consequence, feels that diarrhoea is imminent a dose opportunely taken averts it. The facial neuralgia gives scarcely any trouble and the nasal trouble is also much relieved. *The necessity for this simple treatment gradually disappeared.*  
The cause of the diarrhoea was probably to be looked for in some ovarian or uterine disturbance causing reflex stimulation of the peristaltic movements of the bowel. The diarrhoea was always aggravated during menstruation and even when practically cured, it was then that it tended to recur. Dr Lauder Brunton (Allbutt's System of Medicine, Vol III. page 701) has drawn attention to some cases of con-

stipation which he believes are due to reflex inhibition of the peristalsis from irritated ovaries or uterus. In these cases occurring in delicate women, he says, exercise and particularly walking exercise, makes the constipation more obstinate and they are well when they lie quiet; walking, that is, increases the inhibitory reflex. In this case walking did undoubtedly relieve the diarrhoea and that probably by means of an inhibitory reflex. When there was any tendency to diarrhoea, a good long walk often averted it. At one time two hours walking every day kept her right. Habit also, as suggested, had something to do with it probably. In constipation the necessity of training patients in proper habits is well known and that a regular habit can fairly readily be acquired. So in this case, very likely over stimulation of peristalsis at menstrual period would tend to become habitual.

I have had frequent opportunities of seeing the patient since 1897. There has been no return of the diarrhoea. During last year, 1900, she enthusiastically took up a course of physical exercises with the result of attaining a high degree of muscle and health. She is a keen bicyclist and otherwise an active and energetic person.

One is entitled to say that in this case the milk treatment has been absolutely successful.